

Calculation of Net Job Gains and Losses

Employment changes are based on the beginning of quarter employment measure, or “B”, as reported on QWI Online (as “Total Employment”). This measure requires that an individual receive wages from a firm in the previous and current quarter, based on unemployment insurance wage reports. Data are aggregated by NAICS¹ industrial sector, as well as by age group. This tabulation includes only private sector businesses in all sectors, so NAICS sector 92 (Public Administration) has been excluded. Data is available through 2008q4 for 46 LEHD partner states at this time.

Weighting to QCEW

The LED B measure is weighted on a statewide level to match the publicly released Quarterly Census of Employment and Wages (QCEW), produced by the Bureau of Labor Statistics (BLS). The benchmark measure used is total private employment in the first month of the quarter (October for fourth quarter employment). The statewide private sector aggregates for LED may differ from the QCEW by up to about 1% due to the noise infusion that is applied as part of the confidentiality protection scheme used in the QWI.

The most recently available data in the QWI system is considered preliminary, and the weights are applied slightly differently. Because the BLS numbers are not yet available during QWI production, the last quarter is weighted to QCEW based on microdata reports. This can lead to somewhat higher discrepancies in the most recent quarter.

Calculating Growth Rate

The employment growth rate is calculated using a symmetric percentage change calculation. The computation is as follows:

$$\frac{(B^{2008q4} - B^{2007q4})}{(B^{2007q4} + B^{2008q4})/2}$$

This calculation has the advantage of treating increases and decreases in employment symmetrically. A percentage increase followed by an identical percentage decrease will return the employment to the starting point. For an example, see the following table for a comparison with the usual percentage change calculation, $(B_2/B_1)-1$.

Time Period	Value	% Change	Symmetric % Change
1	100	--	--
2	125	25%	22.2%
3	100	(20%)	(22.2%)

For a more complete description of the development of the QWI measures, see Technical Paper 2006-1, *The LEHD Infrastructure and the Creation of the Quarterly Workforce Indicators*, located at <http://lehd.did.census.gov/led/library/techpapers/tp-2006-01.pdf>.

¹ North American Industry Classification System